| | |
|---|---|
| NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924)<br>U.S. DEPARTMENT OF COMMERCE<br>NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION<br>NATIONAL WEATHER SERVICE | HYDROLOGIC SERVICE AREA (HSA)<br>**WFO Jackson, Mississippi** |
| **MONTHLY REPORT OF HYDROLOGIC CONDITIONS** | REPORT FOR:<br>MONTH: **October** YEAR: **2011** |
| TO: Hydrometeorological Information Center, W/OH2<br>NOAA / National Weather Service<br>1325 East West Highway, Room 7230<br>Silver Spring, MD 20910-3283 | SIGNATURE<br>**Alan E. Gerard, Meteorologist In-Charge**<br>DATE<br>**11/16/2011** |

*When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)*

[X] **An X inside this box indicates that no river flooding occurred within this hydrologic service area.**

**Synopsis...**

**Nice fall weather prevailed during the month of October. Temperatures and rainfall were below normal for the month across the Hydrologic Service Area (HSA).**

**High pressure built into the area after a late September cold front. High pressure drifted from the Midwest to the East Coast of the United States from the 1st to the 6th. Return flow from the Gulf of Mexico produced warming temperatures and increasing humidity from the 7th through the 10th. A weak upper level trough pushed through from the 11th into the 12th bringing winds back around to the north. A cold front rapidly pushed across the area on the 13th bringing some needed rainfall to much of the area; however, the rainfall was much too light to bring any long term relief. Amounts ranged from 0.25 to 1.50 inches across all but Southeast Arkansas where little to no rainfall occurred. High pressure remained in control of the weather through the 17th.**

**Another cold front pushed across the region on the 18th. From 0.10 to 0.50 inches of rain fell across Southeast Arkansas, portions of Northeast Louisiana, and Northwest Mississippi. Only some light showers occurred across mainly East Mississippi. High pressure moved into the HSA from the 19th through the 22nd bringing cool days and cold nights. From late on the 23rd into the 24th, a cold front pushed southward and stalled across Southeast Mississippi. Rainfall of 0.50 inches or less occurred across northern portions of Mississippi while scattered amounts less than 0.50 inches occurred across South and Southwest Mississippi and southern portions of Northeast Louisiana. The front washed out on the 25th as high pressure once again moved into the area. High pressure remained in control through the 26th.**

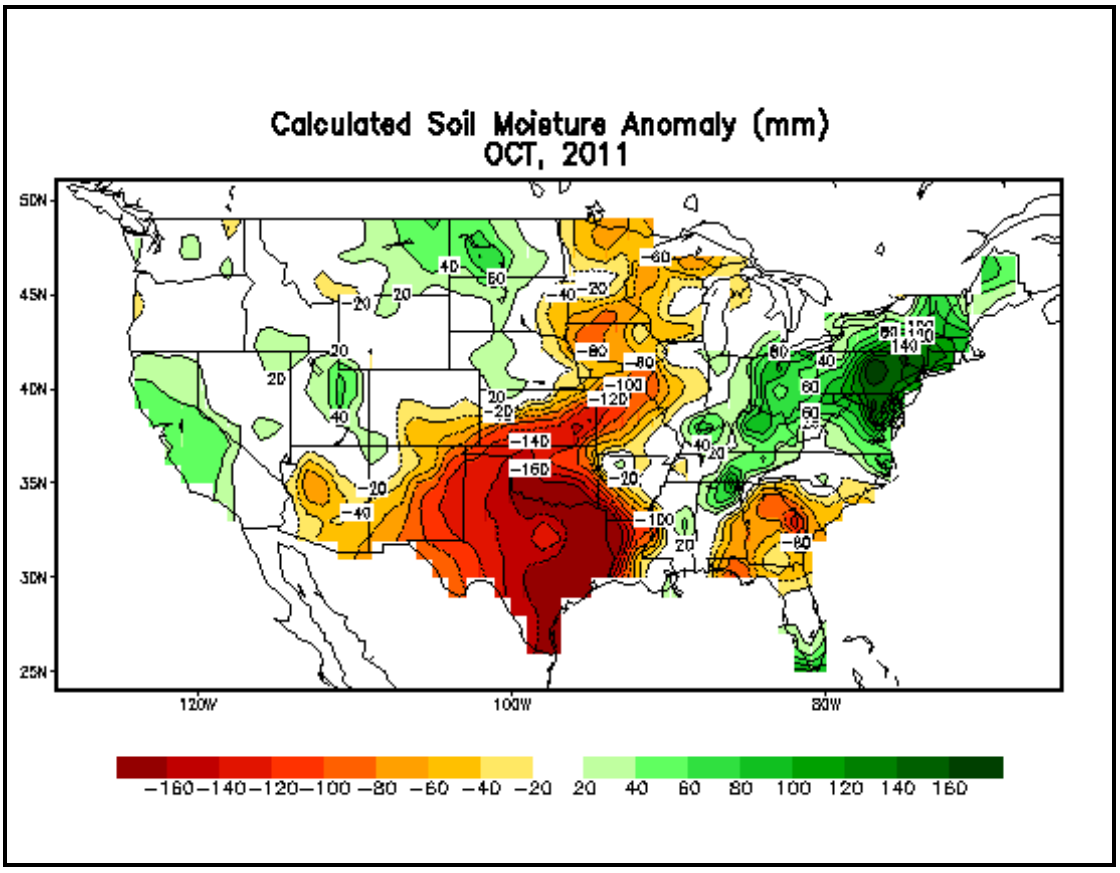
**Yet another cold front moved through the HSA on the 27th and to the Mississippi Coast by the morning of the 28th. Rainfall from 0.50 to 1.50 inches occurred across Southeast Arkansas, Northwest Mississippi, and northern portions of Northeast Louisiana. Rainfall from 0.10 to 0.50 inches occurred across southern portions of Northeast Louisiana, Southwest,**

Central, and Northeast Mississippi. Only a few sprinkles occurred in South and Southeast Mississippi. Cool high pressure dominated the weather through the end of the month.

**River and Soil Conditions...**

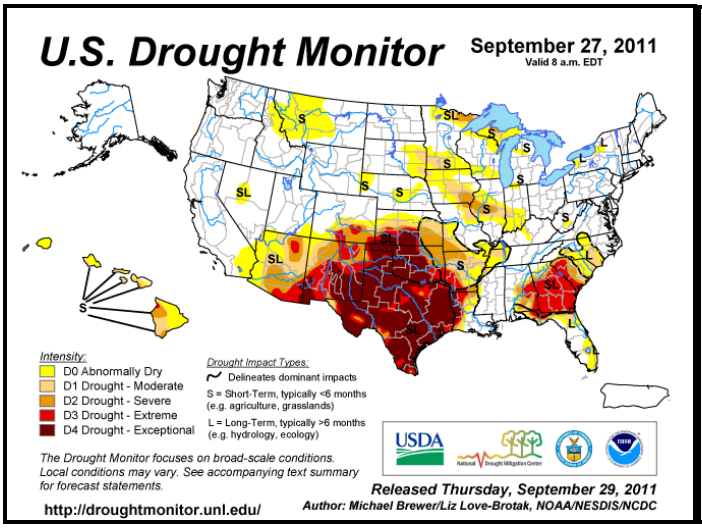
October was very dry. Rainfall from 5 to 25 percent of normal occurred across southern portions of Northeast Louisiana and central, southern, and northeastern portions of Mississippi. The least amount of rainfall occurred in Southeast Mississippi. Northern and northwestern portions of Mississippi, northern portions of Northeast Louisiana, and Southeast Arkansas had rainfall amounts range from 25 to 90 percent of normal.

The driest soils within the HSA continue to be across Northeast Louisiana and Southeast Arkansas. Soils are drying out rapidly across southern portions of Mississippi even with lowering evapotranspiration rates. Soil moisture continues to fall but is adequate in East Central Mississippi. Lower zone soil moisture is a problem over much of the HSA due to the yearly rainfall deficits.

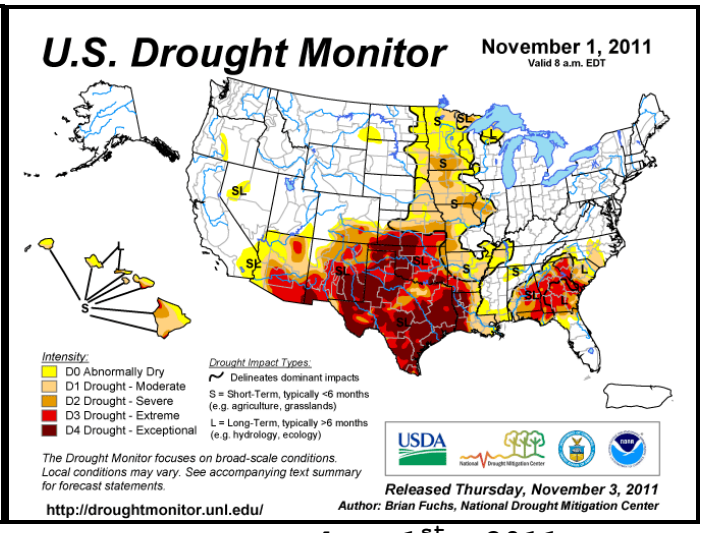



October 2011

**A comparison of the September 27th U.S. Drought Monitor to the November 1st U.S. Drought Monitor showed improvement across Southeast Arkansas and the northern most parishes of Northeast Louisiana where conditions improved from Severe Drought (D2) to Moderate Drought (D1). Conditions worsened across southern and central portions of Northeast Louisiana where conditions went from Abnormally Dry (D0) to Moderate Drought (D1). Southwest and portions of Southeast Mississippi moved from no drought conditions to Abnormally Dry Conditions (D0). Abnormally Dry (D0) conditions continued in extreme western counties of Mississippi.**

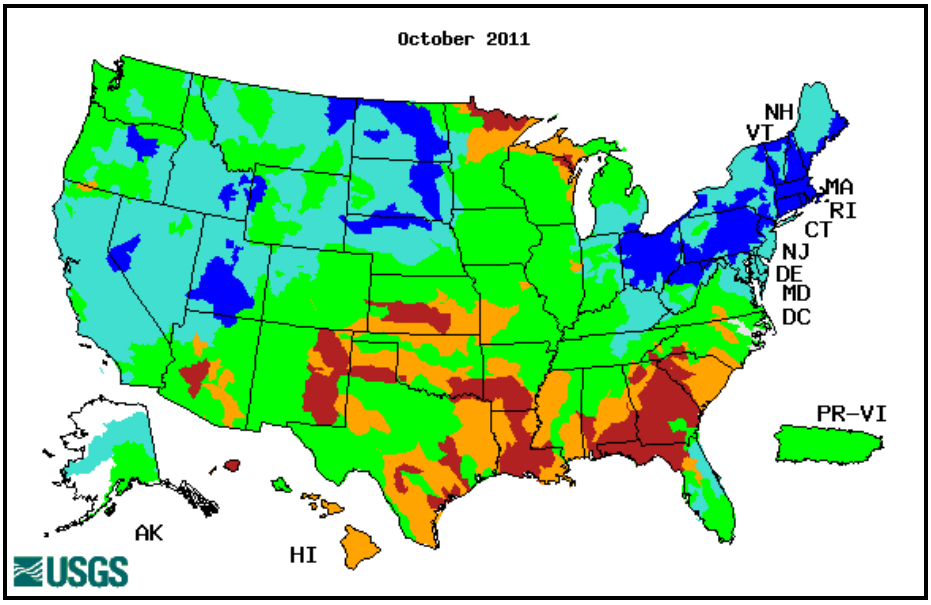



September 27, 2011




November 1st, 2011

The United States Geological Survey's (USGS) October 2011 river streamflow records were compared with all historical October streamflow records. Streamflow was near normal across the Pearl River Basin and a portion of the Tombigbee River System. Streamflow was below normal across the remainder of the HSA.




| Explanation - Percentile classes | | | | | | |
|---|---|---|---|---|---|---|
| Low | <10 | 10-24 | 25-75 | 76-90 | >90 | High |
| | Much below normal | Below normal | Normal | Above normal | Much above normal | |

Little change in river levels was noted across the HSA during the month.

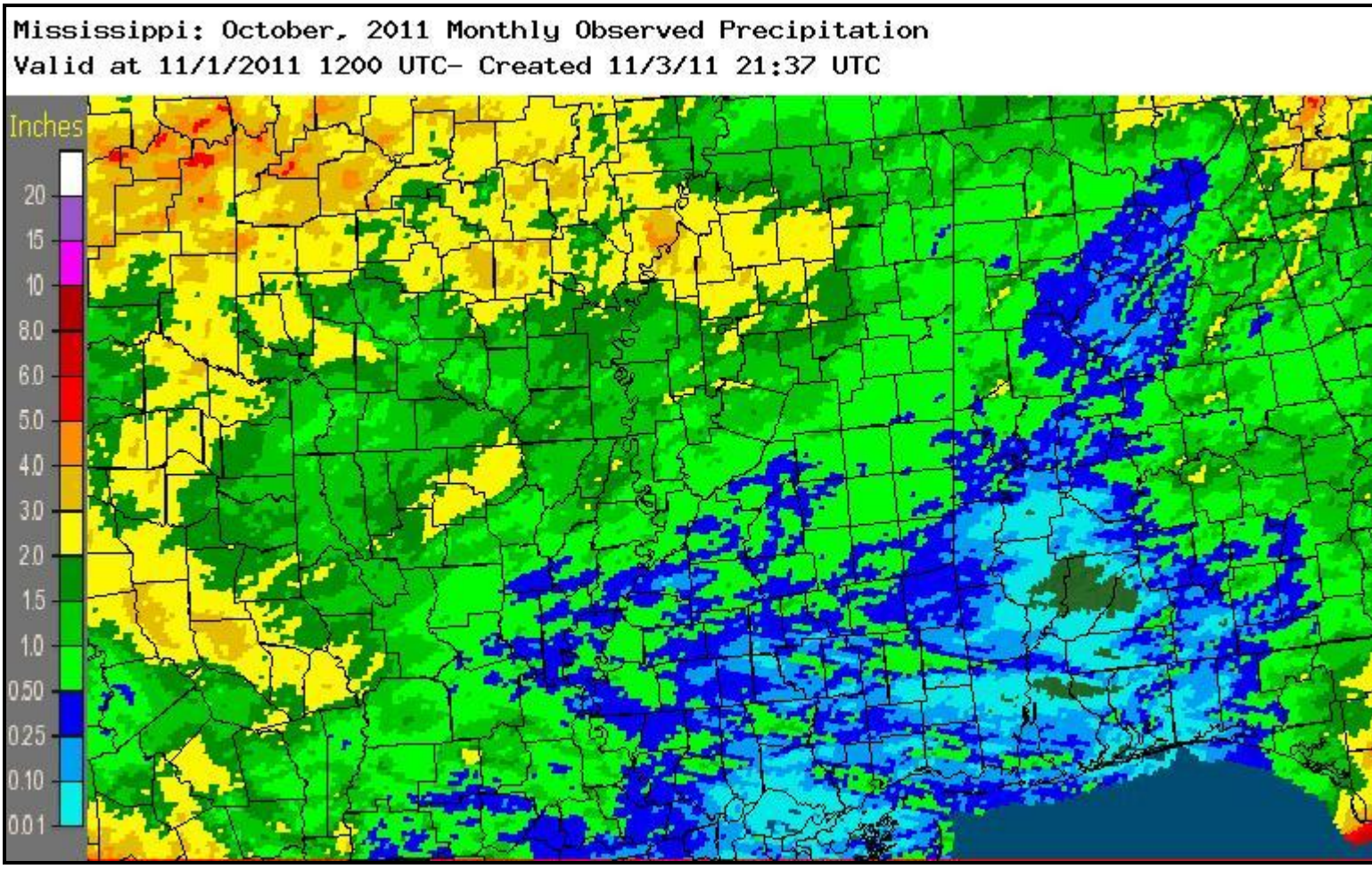
Soil moisture remains near normal in East Mississippi and below normal across much of the remainder of the area. Temperatures are expected to be above normal while rainfall is expected to remain below normal in the 1 to 3 month time period. With streamflow at or below normal, flood potentials are as follows:

| | |
|---|---|
| ***Pearl River System***: | Below Normal. |
| ***Yazoo River System***: | Below Normal. |
| ***Big Black River System***: | Below Normal. |
| ***Homochitto River System***: | Below Normal. |
| ***Pascagoula River System***: | Below Normal. |
| ***Northeast LA and Southeast AR***: | Below Normal. |
| ***Tombigbee River System***: | Below Normal. |
| ***Mississippi River:*** | Below Normal. |

## Rainfall for the month of October

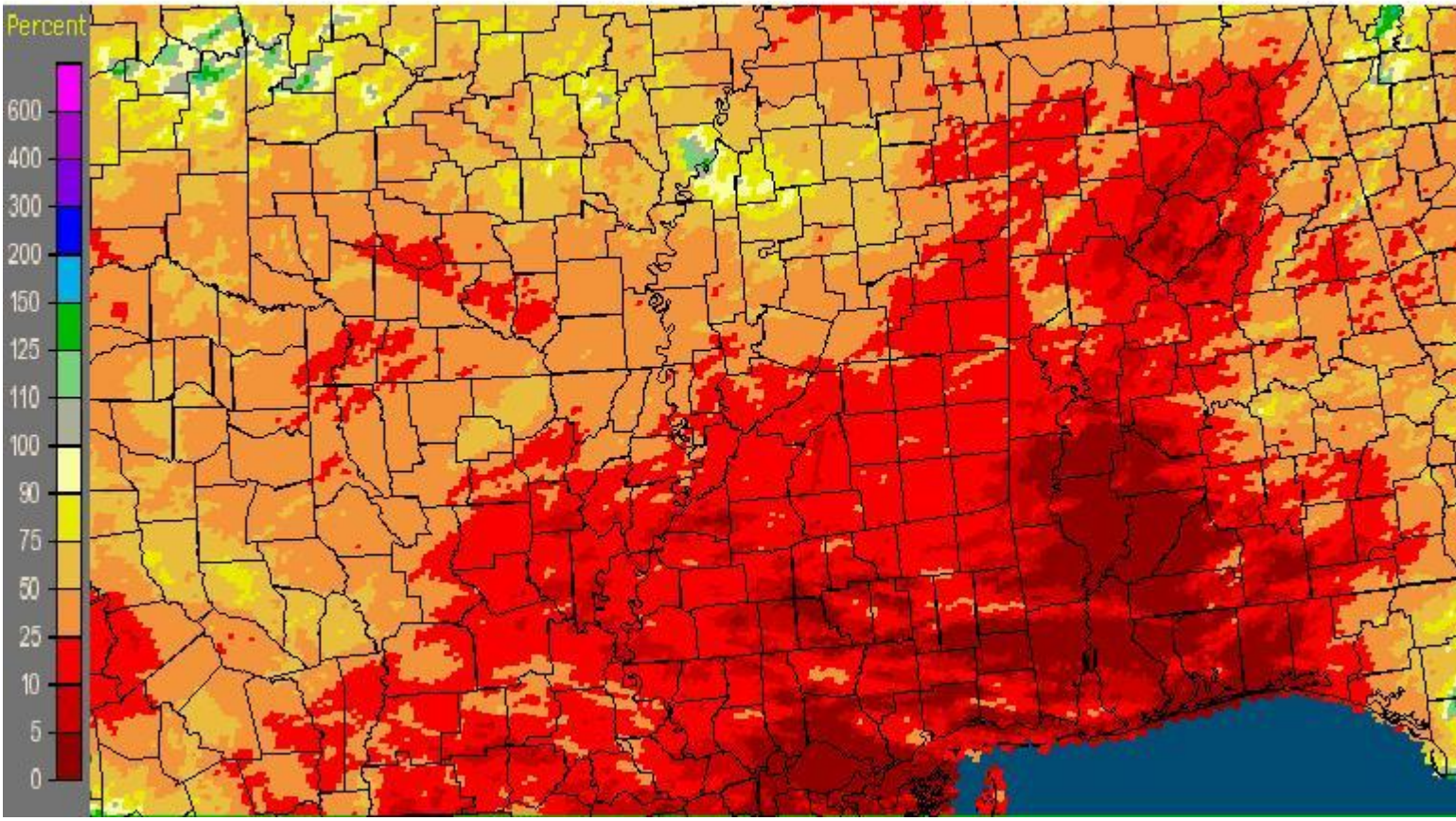
**The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on September 30th until 7 am on October 31st were: 2.26 inches at Dermott, AR; 2.28 inches at Grenada, MS; 2.23 inches at Cleveland, MS; 2.07 inches at Crossett, AR; 1.97 inches at Rolling Fork, MS; 1.93 inches at Vidalia, LA; 1.82 inches at Lake Providence, LA; and 1.77 inches at Bastrop, LA.**

**The lowest monthly rainfall totals in the HSA were: 0.15 inches at Sumrall, MS; 0.22 inches at Hattiesburg, MS; 0.23 inches at Pat Harrison Waterway's Dry Creek Water Park, MS; 0.27 inches at Crandall, MS; 0.26 inches at Columbia, MS and Red River Lock and Dam 1, LA; and 0.30 inches at Jonesville Lock and Dam, LA.**




October 2011 Rainfall Estimates

Mississippi: October, 2011 Monthly Percent of Normal Precipitation
Valid at 11/1/2011 1200 UTC- Created 11/3/11 21:41 UTC




2011 October Percent of Normal Rainfall Estimates

Note: Observer rainfall and MPE may differ due to time differences.

October rainfall for Selected Cities...

| City (Airport) | October Rainfall | Departure from normal | 2011 Rainfall | 2011 Departure from Normal |
|---|---|---|---|---|
| Jackson, MS | 0.94 | -2.98 | 39.28 | -4.95* |
| Meridian, MS | 0.49 | -3.27 | 43.52 | -2.63* |
| Greenwood, MS | 1.11 | -2.76 | 28.15 | -13.45* |
| Greenville, MS | 1.00 | -3.32 | 22.82 | -19.14* |
| Hattiesburg, MS | 0.51 | -3.24 | 49.49+ | -3.61* |
| Vicksburg, MS | 0.86 | -3.81 | 27.96 | -16.17* |

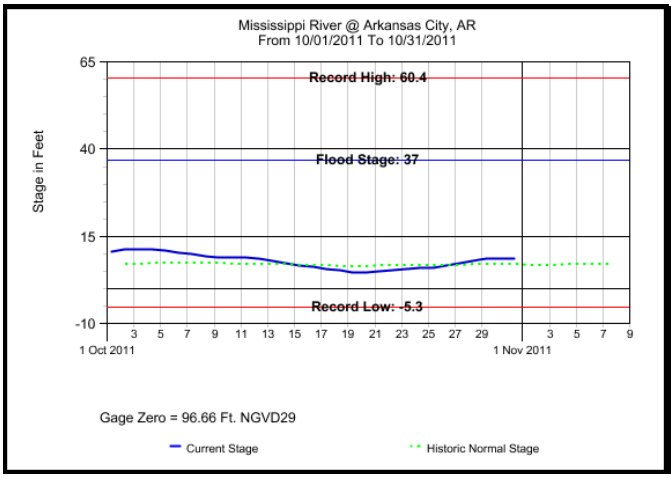
* 2011 Departures from Normal are now using the new Climate Means 1981-2010 values. Prior monthly reports used the 1971-2000 Climate Means.

+ Denotes a correction to 2011 rainfall total

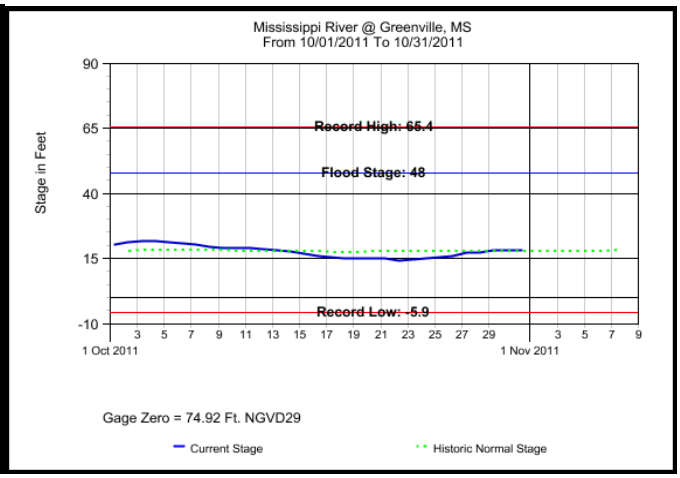
# Mississippi River...

## Mississippi River Plots for October, 2011

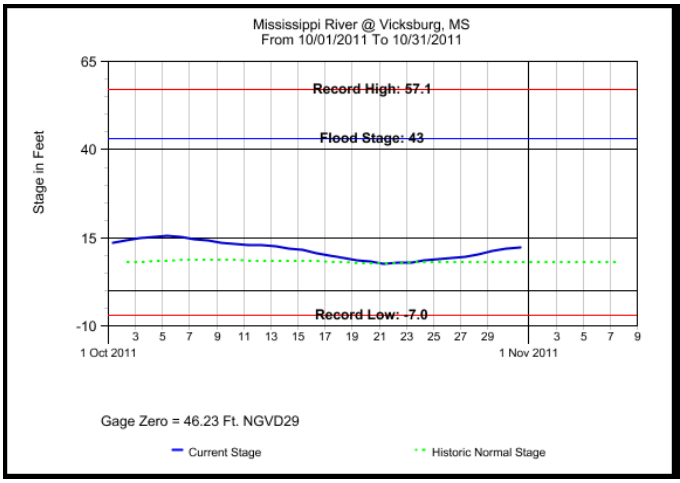
**Plots Courtesy of the United States Army Corps of Engineers**



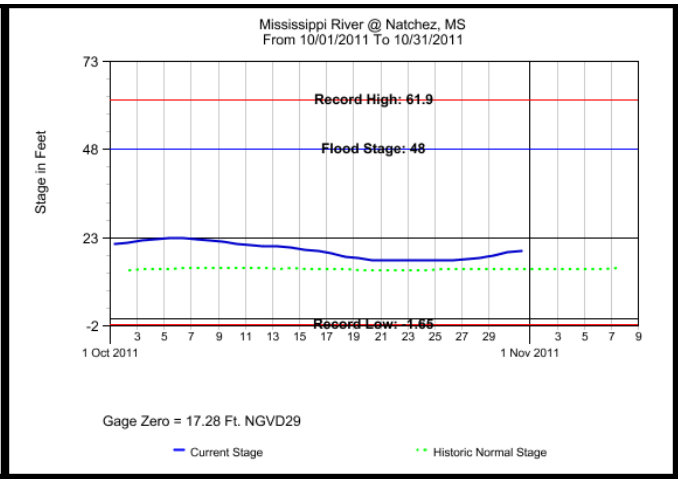

ARKANSAS CITY, MS




GREENVILLE, MS




VICKSBURG, MS




NATCHEZ, MS

**Preliminary high and low stages for the month:**

| Location | FS | High Stage(ft) | Date | Low Stage(ft) | Date |
|---|---|---|---|---|---|
| Arkansas City, AR | 37 | 11.41 | 10/03/11 | 4.40 | 10/19/11 |
| Greenville, MS | 48 | 21.76 | 10/03/11 | 14.03 | 10/21/11 |
| Vicksburg, MS | 43 | 15.55 | 10/05/11 | 7.67 | 10/21/11 |
| Natchez, MS | 48 | 23.01 | 10/05/11 | 16.20 | 10/22/11 |

**Total Flood Warning products issued: 0**
**Total Flood Statement products issued: 0**
**Total Flood Advisories MS River : 0**
**Daily Rainfall Products (RRA'S) issued: 31**
**Daily River Forecast Products (RVS'S) issued: 31**
**Daily River Stage products (RVA'S) issued: 31**

**Marty V. Pope**

**Service Hydrologist &**

**Latrice Maxie**

**Assistant Hydrologist/Observing Program Leader (OPL)**

**Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.**

**cc: USGS Little Rock District**
**USGS Ruston District**
**USACE Mobile District**
**USACE Vicksburg District**
**USACE Mississippi Valley Division**
**USGS Mississippi District**
**SRH Climate, Weather and Water Division**
**Lower Mississippi River Forecast Center**
**Pearl River Valley Water Supply District**
**Hydrologic Information Center**
**Southern Region Climate Center**
**Pat Harrison Waterway District**
**Pearl River Basin Development District**